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ABSTRACT

This study examines the limited literature on zoomobile programs and suggests that remarkable uniformity exists between such variables as types and lengths of programs offered, animals used, staffing, area served, and funding. It notes a common set of problems, from practical ones such as animal stress and liability insurance, through philosophical ones such as training of animals, the balance between entertainment and education, and the educational purposes of zoomobiles. These issues are addressed in the context of zoomobile programs dealing with taxonomy, ethology, pet care, career education, and animals as part of human culture. (Author/TW)

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Extending the Curriculum of Zoomobiles

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EXTENDING THE CURRICULUM OF ZOOMOBILES*

Millicent A. Wood
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Abstract

The limited literature on zoomobile programs suggests remarkable uniformity on such variables as types and lengths of programs offered, animals used, staffing, area served, and funding; and a common set of problems, from practical ones such as animal stress and liability insurance through philosophical ones such as training of animals, the balance between entertainment and education, and the educational purposes of zoomobiles. These issues are addressed in the context of zoomobile programs dealing with taxonomy, ethology, pet care, career education and animals as part of human culture.

Introduction

Steig (1984) surveyed zoomobile programs at 26 US zoos. Most used vans and depended on volunteers. They serve an average of 5000-6000 people per year in nursing homes, hospitals and schools. About half operate during school months only (September-May in the US). The maximum roundtrip distance travelled is about 100 miles or 2 hours. Half are free. The remainder use distance, number of presentations, attendance or some combination of these factors as the basis for their charges. Apparently none meet costs so require supplementary funding from private sponsors, zoo associations or governing institutions. Programs last 45-60 minutes. Animals seldom are tamed or trained and often are non-releasable rehabilitants.

The Kansas City Zoomobile is typical (Butts 1985). It reaches about 200 groups per year, and is supported by a special animal facility which cares for approximately thirty animals used exclusively in various educational programs. Approximately 30 docents offer programs on endangered species, native animals, animal habitats, predator/prey relationships, animal adaptations and defenses, and mammals, birds and reptiles. Programs are tailored to each audience in terms of depth of material and length of visit. The program is described as hands on, interpretive, aimed at developing appreciation and understanding of the animal kingdom, and at promoting the zoo.

Issues

Zoomobiles raise a number of thorny issues that zoo educators are unlikely ever to agree on because they--and people generally--vary in their underlying attitudes and beliefs as to the proper relationship between men and animals. Among these issues is the proper balance between education and entertainment. The issues over which there probably has been more heat than light involve contact animals, anthropomorphism and possible encouragement of keeping exotic pets. At the very practical level, there are questions of animal stress, acclimatization or training, visit frequency and pricing. Finally, but probably most fundamental of all the issues, is what educational purpose zoomobiles serve.

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* Paper presented at the western regional meeting of the American Association of Zoological Parks and Aquariums, Monterey, CA, March 1988.

Responses

We are working out our own answers to these issues in the context of Wildlife on Wheels [WOW] which we formed in December 1985 as a California nonprofit educational corporation. Our current answer to the first issue is that wildlife education is best conducted as part of regular classroom or auditorium programs, but that effectiveness can be enhanced by making them entertaining. It is not necessary to resort to circus tricks to entertain. Rather, we rely on a careful combination of programs responsive to student interests, the immediacy of live animals, experiential learning, and devices such as slides to vary the way information is presented.

Children learn by using all their senses, much to our chagrin when we see some of the things they are willing to taste. Our current position on the second issue is to permit touching and handling of animals in conjunction with learning activities, if it is safe for both students and animals. We will provide the specifics below in conjunction with program descriptions. With respect to anthropomorphism, we believe that animals are sentient beings exhibiting individual differences so we name our animals and are not obsessed with avoiding any attribution of feelings to them. Finally, we generally discourage keeping of exotic animals as pets.

Our approach to the third issue is to minimize animal stress by careful selection of species and individuals, hand raising, and rotation of animals used in programs. Within these guidelines we follow the common practice of using nonreleasable rehabilitants if possible. The animals are acclimatized to human contact, strangers, car rides, other animals and strange noises, so that the stress of being taken to schools is minimized. We select the smallest and most tractable species appropriate to the educational goals of our program, which has the additional happy effect of reducing transport, food and insurance costs.

Demand exceeds supply wherever zoomobiles are available. In many cities a zoomobile gets to a school about once every five years, so that an individual child will receive one 45 minute program during his or her entire elementary school career. Although a few docents can be found around any zoo who will describe such a visit as the most memorable event of their school years, the overall impact cannot be great. Zoomobiles might be more effective if they made many visits to a few schools, and no visits to most. Tax-supported zoos cannot get away with this, because in government equity is more important than effectiveness. But private zoomobiles can. We would rather make five visits to one school than one visit each to five schools.

Prices must cover costs, as we have no other income. But our responsibility as a nonprofit educational company to reach as many students as possible demands that we keep prices low. We know of three other companies operating similar programs. Each has its own pricing system, taking account of such variable costs as distance travelled, number of presentations per day, number and type of animals involved in different ways. From the school's viewpoint, the systems are remarkably similar. Classroom programs are $35, and auditorium programs $175. Given average classroom and auditorium sizes in US elementary schools, this works out to about $1 per student per classroom presentation, and $.30-.50 per student per auditorium program. The unfortunate consequence is that both payer and payee prefer auditorium programs to the more educationally effective programs to both payee and payer.

The most fundamental of the issues concerning zoomobiles is educational purpose. We see no reason why these should be any narrower than the educational purposes of zoos themselves. In fact, Robinson (1987) argues cogently for expanding these purposes by dealing with animals in the broadest possible context. There no longer is a good reason for separating animals from the rest of the living world, and many reasons for doing the opposite. For example, no bison exhibit should ignore its role in the economy, ritual, and magic of the plains Indian.

Similarly, several papers presented at the last meeting of the International Association of Zoo Educators argued the relevance of zoos to disciplines other than science. De Groeve (1984) dealt with programs for the visually handicapped, and Pelan (1984) dealt with zoo education for psychiatric patients. Ryan (1984) described a dance program for (but not limited to) the handicapped based on animal movement and Nemeth (1984) dealt with programs for senior citizens. Zoomobiles seem well-adapted to developing programs for special audiences that might not otherwise be able to come to the zoo itself.

Hamilton (1984) suggested using the zoo to generate projects in mathematics, textile design, history, and orienteering. Silkstone (1984) related zoo education to foreign language, film-making, and and geography. Rademacher (1984) stressed both art and the importance of follow-up activities in connection with all zoo visits. Wright (1984) concentrated on zoos and animals to generate assignments aimed at developing language, writing and observation skills. Collectively, these papers demonstrate that zoo education can relate to almost any discipline. Several examples follow.

Survey of the Animal Kingdom

Almost all--if not all--zoomobiles have a program dealing with taxonomy and WOW is no exception. Our's is based on individual classroom visits, follows normal classroom procedures, and even involves homework, so seems less like an entertainment break to the children. But, more important, it is based on five visits rather than one. This permits inclusion of a much wider range of animals, including arthopods, fish, insects, amphibians, reptiles, birds, and mammals. It also reduces the amount of handling each animal must endure. The intent of the program not only is to develop a better understanding of the taxonomic system, but to sharpen and discipline the observation skills of the students.

Studies in Animal Behavior

A National Science Foundation grant (Birney, et. al. 1985) enabled us to develop 25 nonharmful classroom experiments on animal behavior (See Table 1). For example, one study requires counting how many times a snake flicks its tongue when substances such as whole pepper, orange slices and cotton swabs soaked in rat urine are in its cage for five minutes. This obviously provides a graphic and convincing experience of why snakes flick their tongues. At least as important, students must work through the process of hypothesizing, data collection, data analysis and reporting, so learn as much about the process underlying scientific research as they do about animal behavior. Optimum learning requires only four or five of the experiments, so again, the program is adaptable to the age, knowledge, and abilities of students.

Careers with Animals

This program originated in a joint grant with the University of California (Davis) School of Veterinary Medicine. It consists of a survey of careers involving animals including health technician, animal control officer, breeder, bee keeper, dairy farmer, fisherman, farrier, jockey, marine biologist, park naturalist, pet store owner, rancher, ranger, taxidermist, trainer, wildlife biologist, wildlife writer, veterinarian and zoo curator, director, educator or keeper. The program emphasizes self assessment based on the type and level of preparation, levels of commitment and responsibility, career ladders and the values associated with each occupation. It is given in conjunction with career education rather than science programs.

Animals in a Multicultural World

We will treat this program in greater detail because it is the most unusual. This auditorium program uses slides, music and animals to take elementary students on an imaginary trip around the world. It is part of a Los Angeles Unified School District program aimed at improving understanding of other cultures. Schools may choose from over 75 "artists" who offer such diverse programs as Inca music and Indonesian shadow plays. While the artists obviously intend to entertain, they also must educate. They must develop specific educational objectives, address each in their programs, and provide pre- and post-visit materials which are reproduced and provided to all participating schools by the district. In our case, the program aims to improve student understanding of cultural geography and to demonstrate several ways in which animals are part of human culture.

The program begins with a schmalzy but effective poem asserting that "All of us are neighbors" to set the tone and a world map to show the "route" and the four countries "visited." Each "stop" begins with a sequence of about 20 slides dealing with six subjects, and ends with a live animal. The six subjects are the location of the country, one of its cities, terrain, people, the selected aspect of animals in human culture, and the specific animal they are about to see.

Each stop presents a different aspect of each subject. In a particular program, the four types of terrain might be tundra, grassland, mountains, and tropical rain forest. The four lifestyles may be rancher, nomad, fisherman, and hunter-gatherer. The four human-animal relationships may be myth, transportation, religion, and adornment. The four different animals will always include one reptile, one mammal, and one bird.

Countries, animals and cultural aspects illustrated can be changed to create several versions of the program. This is important as we often are asked to present the program two and three years in succession at the same school. It also facilitates a last minute change if a particular animal is ill, needed for one of our other programs, or cannot be used on a given day for any other reason on a given day. us make easy substitutions if a particular animal is ill or cannot be used for some other reason: we simply replace one block of slides and load a different animal. To make this really fast, we simply keep one or two extra sets of slides in correct sequence right in the slide tray.

From an educational perspective, each slide and each animal is used to introduce specific vocabulary or concepts about geography, culture, and ecology. Post-visit materials such as mazes and puzzles that reinforce these points are provided to each school. There is a special set of materials for absentees encouraging them to ask friends about the program (it would be interesting to evaluate the success of this idea). The program is popular with teachers partly because they recognize it as curriculum design disguised as entertainment; partly because it opens up so many possibilities in so many elementary school subjects for classroom activities.

Conclusion

If one thinks about these programs as a group, they demonstrate that zoomobiles have very rich educational potential far beyond the confines of the usual biological and ecological programs. We believe this potential should be exploited fully. More and more, as we work on future programs, we try systematically to include concepts from many disciplines. A challenge along this line that we leave you with is to devise a dozen different presentations dealing with an egg, each based on a separate discipline.

Behavior	Amphibian	Reptile	Bird	Mammal	Fish
Ingestion		1	1	1	
Elimination	1	1	1	1	
Investigation		1	2	2	
Sheltering	2	2	2	2	
Learning	1	2	1	2	
Threat/Defense	2	3	3	3	3
Reproduction			3	3	

Key: 1 = Easy 2 = Intermediate 3 = Difficult

Table 1
Types of Behaviors Studied, by Classes

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